Bulletin No: Print Cut Offset_0.pdf **Model: All Print/Cut Devices** **Author: Jack Pozorski**

Print & Cut Misalignment

Visual Troubleshooting Guide

Ideal Conditions

The above illustration shows the ideal print and cut conditions where the red stars signify the printed image and the black lines are the cut path.

The following are symptoms of misalignment and actions that can be taken for correction followed by a guide for complete service level calibration.

Symptom 1: Cut is Shifted in the Same Direction for the Same Amount

End User Actions:

1. Perform “ENV. MATCH” in the user menu.
2. Perform “PRINT-CUT ADJ” in the user menu.

Symptom 2: Cut is OK at Left and Right Side but Shifted at Center

End User Actions:

1. Perform “ENV. MATCH” in the user menu.
2. Perform “TEST PRINT” of “PRINT-CUT ADJ.” in the User menu at the Left, Center and Right of the media, and find the value that minimizes the shifting amount at 3 positions. Then, input the values in “SCAN SETTING” and “FEED SETTING”.

Symptom 3: Cut is OK at Right Side but is Shifted on the Left Side

End User Actions:

1. Perform “ENV. MATCH” in the User menu.
2. Make sure “CALIBRATION” > “CUTTING ADJ.” > “SCAN SETTING” is set to 0.
3. Perform “PRINT-CUT ADJ.” in the User menu.

Symptom 4: Cut is OK at Lead Edge but is Shifted at the End of Print

End User Actions:

1. Perform “ENV. MATCH” in the User menu.
2. Make sure “CALIBRATION” > “CUTTING ADJ.” > “FEED SETTING” is set to 0.
3. Perform “PRINT-CUT ADJ.” in the User menu.

Symptom 5: Symptom 2, 3 and 4 are Mixed or Details are Not Clear

End User Actions:

1. Perform “ENV. MATCH” in the User menu.
2. Make sure “CALIBRATION” > “CUTTING ADJ.” > “SCAN SETTING” and “FEED SETTING” are set to 0.
3. Perform “TEST PRINT” of “PRINT-CUT ADJ.” in the User menu at the Left, Center and Right of the media, and find the value that minimizes the shifting amount at 3 positions. Then, input the values for “SCAN SETTING” and “FEED SETTING”.

Symptom 6: No User Level Adjustments Solves the Misalignment Issue

This could be caused by expansion or contraction of the media. Using the Quadralign feature may eliminate the misalignment. Follow these steps:

1. Perform printing with crop marks.
2. Turn off the Print Heater and the Dryer and wait until they are cooled down.
3. Reload the media and have the machine detect the crop marks.
4. Start cutting.

If Print & Cut accuracy can not be accomplished after performing all of the above steps, a complete service level calibration needs to be performed.

ProII Models
Service Technician Print/Cut Calibration Workflow

The following steps will allow you to perform a complete Print/Cut Adjustment. It is imperative that you complete each step in sequence as directed to ensure proper calibration. It is recommended that GCVP media and a 45 degree blade be used for these adjustments.

Prerequisites

1. Power on the unit in the service mode.
2. Make sure you are using the latest firmware.
3. Check wire tension. Consult service manual for correct tension for the device you are calibrating.
4. Setup the media.
5. Set the blade depth, cutting pressure and offset (0.250mm) to the optimum setting for the 45 degree blade. Perform "Test Cut" to verify.
6. Navigate to "Menu -> Calibration –> Cutting Adj. -> Feed setting" and make setting zero.
7. Navigate to "Menu -> Calibration –> Cutting Adj. -> Scan setting" and make setting zero.
8. Navigate to "Menu -> Print-Cut Adj. - > Feed Setting" and make setting zero.
9. Navigate to "Menu -> Print-Cut Adj. -> Scan Setting" and make setting zero.
10. Navigate to "Menu -> Env. Match" and hit "Enter" to perform. For best results, machine and room should be at normal operating temperatures.

Cropmark Sense Adjust

1. Navigate to "Menu -> Service Menu –> Cropmark Sense –> OutputLevel Check" and hit "Enter" to perform check. Consult service manual for correct settings and procedures to change.

Crop-Tool Adjust

1. Navigate to "Menu -> Service Menu –> Crop-Tool Adj. –> Test Print" and hit "Enter" to perform test.
2. Adjust "Feed Settings" and "Scan Settings".
3. Repeat items 1 and 2 until square is cut correctly.

Print/Cut Adjust

1. Navigate to "Menu -> Service Menu -> Print &Cut Adj. –> Feed Settings" make setting zero.
2. Navigate to "Menu -> Service Menu -> Print &Cut Adj. –> Scan Settings" make setting zero.
3. Navigate to "Menu -> Service Menu -> Print &Cut Adj. –> Test Print" press enter to perform test print.
4. Check the alignment of the cut squares relative to the print squares.
5. Navigate to back to Feed and Scan settings and adjust accordingly.
6. Repeat steps 3 through 5 until printed squares are cut correctly.
7. Navigate to "Menu -> Print-Cut Adjust -> Test Print" and press "Enter" to perform "Test Print". Cut lines should intersect at 0 for feed and 0 for scan. Repeat steps 3 – 6 if they are not centered.

VersaCamm Models
Service Technician Print/Cut Calibration Workflow

The following steps will allow you to perform a complete Print/Cut Adjustment. It is imperative that you complete each step in sequence as directed to ensure proper calibration. It is recommended that GCVP media and a 45 degree blade be used for these adjustments.

Prerequisites

1. Power on the unit in the service mode.
2. Make sure you are using the latest firmware.
3. Check wire tension. Consult service manual for correct tension for the device you are calibrating.
4. Setup the media.
5. Set the blade depth, cutting pressure and offset (0.250mm) to the optimum setting for the 45 degree blade. Perform “Test Cut” to verify.
6. Navigate to “Menu -> Calibration –> Cutting Adj. -> Feed setting” and make setting zero.
7. Navigate to “Menu -> Calibration –> Cutting Adj. -> Scan setting” and make setting zero.
8. Navigate to “Menu -> Print-Cut Adj. - > Feed Setting” and make setting zero.
9. Navigate to “Menu -> Print-Cut Adj. -> Scan Setting” and make setting zero.
10. Navigate to “Menu -> Env. Match” and hit “Enter” to perform. For best results, machine and room should be at normal operating temperatures.

Cropmark Sense Adjust

1. Navigate to “Menu -> Service Menu –> Cropmark Sense –> OutputLevel Check” and hit “Enter” to perform check. Consult service manual for correct settings and procedures to change.

Crop-Tool Adjust

1. Navigate to “Menu -> Service Menu –> Crop-Tool Adj. –> Test Print” and hit “Enter” to perform test.
2. Adjust “Feed Settings” and “Scan Settings”.
3. Repeat items 1 and 2 until square is cut correctly.

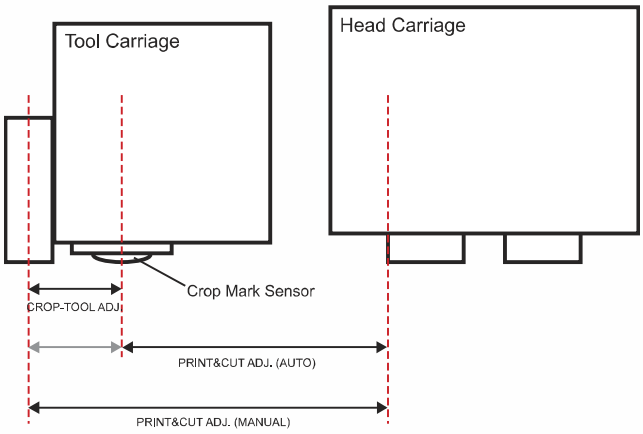
Print/Cut Adjust

1. Navigate to “Menu -> Service Menu -> Print &Cut Adj. –> Setting2” and make settings for both “F” and “S” zero.
2. Press the “Test Cut” key on the key pad to perform test print and cut.
3. Check the alignment of the cut squares relative to the print squares. Adjust “F” and “S” accordingly.
4. Repeat items 2 and 3 until black squares are cut correctly. Press the “Menu” key to exit.
5. Navigate to “Menu -> Print-Cut Adjust -> Test print” and press “Enter” to perform “Test Print”. Cut lines should intersect at 0 for feed and 0 for scan. Repeat steps 2 – 4 if they are not centered.

Supplemental Information

“Print & Cut adjustment” and “Crop-Tool adjustment”

- **Print&Cut Adjustment (Manual)**
  This calibrates the distance between the Head carriage and the blade.
- **Print&Cut Adjustment (Auto)**
  This calibrates the distance between the Head carriage and the Crop mark sensor by printing a crop mark and detecting it by the sensor. Then, the distance between the blade and the Crop mark sensor will be added to figure out the distance between the Head carriage and the blade.
- **Crop-Tool Adjustment**
  This calibrates the distance between the blade and the Crop mark sensor.



When I need to perform both “Print & Cut Adjustment” and “Crop-Tool Adjustment”, which should be done first?
Crop-Tool Adjustment should be done first. This calibrates the distance between the blade and the crop mark sensor and this distance is used when performing an “AUTO” > “PRINT-CUT ADJ.”.

“ENV. MATCH” function
Printing position is determined by reading the Linear Encoder Scale while cutting position is determined by reading the encoder of the Scan Motor. Since the Linear Encoder Scale can expand or contract due to the ambient temperature or humidity, it causes Print & Cut misalignment. By performing “ENV. MATCH”, the machine performs automatic adjustment to optimize its state to the environment.

***** “ENV. MATCH” is the same as “LINEAR CALIB.” in the Service menu.

“CALIBRATION” function
In addition to the CALIBRATION for printing, there is CALIBRATION for cutting. This calibrates the cutting length and is there for when the machine is used for cutting only. When using the machine for Print & Cut, the offset values always need to be set to 0.

***** The calibration value for printing calibrates the cutting length together with the printing length. Calibration for Cutting calibrates only the cutting function.